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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,722	02/20/2004	Hirofumi Honda	Q79793	4189

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EXAMINER

DHARIA, PRABODH M

ART UNIT	PAPER NUMBER
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2629

DATE MAILED: 12/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/781,722

Applicant(s)

HONDA ET AL.

Examiner

Prabodh M. Dharia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 02-20-04, 10-12-05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 10-12-05 and 02-20-04 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

3. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means"

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and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

5. The abstract of the disclosure is objected to because total number of word count exceeds 150. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipate by Suzuki (US 2003/0006994 A1).

Regarding Claim 1, Suzuki teaches a display panel (page 2, paragraph 27, Lines 1-4 see figure 1, item# 10) drive for tone-driving (page 2, paragraph 27, Lines 4-8, paragraph 31, Item # 30), responding to pixel data based on a video signal (page 2, paragraph 34-36), a display panel in which a field display period of the video signal is constituted by a plurality of subfields (page 3, paragraph 54, Lines 1-4), and pixel cells each carrying a pixel for n (where n is a natural number) display lines are arranged (page 2, paragraph 28), the display panel drive (page 2,

paragraph 27, Lines 4-8, paragraph 31, Item # 30), comprising: a multi-grayscale component for deriving multi-grayscale pixel data by adding each different offset value to the pixel data (page 9, paragraph 221, Lines 23-57) corresponding to a display line group (page 9, paragraph 221, Lines 23-57) including $[M \cdot (k-1) + 1]$ th display lines (where M is a natural number, and k is a natural number of n/M or smaller) of the display panel, a display line group including $[M \cdot (k-1) + 2]$ th display lines thereof, a display line group including $[M \cdot (k-1) + 3]$ th display lines thereof; . . . , a display line group including $[M \cdot (k-1) + M]$ th display lines thereof (pages 6-8, paragraphs 131-207, page 9, paragraph 221, Lines 22-57 teaches a specific group of lines with assigned group pixels will be processed adding dither coefficients or offset to improve brightness and resolution of an image of a display); and an address component for performing a lighting mode setting or an extinction mode setting based on the multi-grayscale pixel data with respect to each of the pixel cells belonging to the corresponding display line group each different in at least M of the subfields (page 5, paragraphs 113-117).

Regarding Claim 2, Suzuki teaches the address component changes the display line groups on a field basis of the video signal for the setting in the M subfields (page 4, paragraphs 82-84, 87-108, page 5, paragraphs 109-113, page 6, paragraph 131, Lines 1-5).

Regarding Claim 3, Suzuki teaches the multi-grayscale component further comprises dither addition component for generating a dither coefficient in a corresponding manner to any adjacent pixel position in a pixel cell group of i -line by j -column, and adding the result to the

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pixel data (page 8, paragraphs 208-211, pages 8,9 paragraph 221)

Regarding Claim 4, Suzuki teaches the dither addition component changes, on a field basis of the video signal, the dither coefficient derived in the corresponding manner to the pixel position in the pixel cell group (pages 8,9, paragraph 221).

Regarding Claim 5, Suzuki teaches sustain component for continuously emitting only the pixel cells in the lighting mode in each of the subfields over a light emission period assigned to the corresponding subfield (page 5, paragraph 116, Lines 9-22, page 3, paragraph 54, pages 4,5, paragraph 86-113), wherein a ratio among the light emission periods of the subfields is non-linear (Col. 10, paragraph 4, Lines 2-15, pages 3,4, paragraphs 54-80).

Regarding Claims 6 and 7, Suzuki teaches the subfield having assigned with the shorter light emission period in one field display period is arranged toward the front (pages 4,5, paragraph 86-113).

Regarding Claims 8,9, and 10, Suzuki teaches reset component for setting all of the pixel cells to the lighting mode in the subfield locating in the field front (page 4, paragraph 80, Lines 1-5), wherein the address component selectively shifts, to the extinction mode, the pixel cells in any one of the subfields in the subfields depending on the multi-grayscale pixel data (page 3, paragraph 54, Lines 5-13, page 5, paragraph 116, Lines 1-8).

Regarding Claims 11 and 12 Suzuki teaches the subfield having assigned with the longer light emission duration in one field display period is arranged nearer to a head of the subfields (page 5, paragraph 116, Lines 22-28, maintained to emit light continuously).

Regarding Claims 13,14 and 15, Suzuki teaches reset component for setting all of the pixel cells to the extinction mode in the subfield locating in the field front, wherein the address component selectively shifts, to the lighting mode, the pixel cells in any one of the subfields in the subfields depending on the multi-grayscale pixel data (page 5, paragraph 116,117).

Regarding Claim 16, Suzuki teaches a display panel (page 2, paragraph 27, Lines 1-4 see figure 1, item# 10) drive for tone-driving (page 2, paragraph 27, Lines 4-8, paragraph 31, Item # 30), responding to pixel data based on a video signal (page 2, paragraph 34-36), a display panel in which a field display period of the video signal is constituted by a plurality of subfields (page 3, paragraph 54, Lines 1-4), and pixel cells each carrying a pixel for n (where n is a natural number) display lines are arranged (page 2, paragraph 28), the display panel drive comprising: a multi-grayscale component for deriving multi-grayscale pixel data by adding each different offset value to the pixel data (page 9, paragraph 221, Lines 23-57) corresponding to a display line group (page 9, paragraph 221, Lines 23-57) including m (where m is a natural number of 2 or larger) (pages 6-8, paragraphs 131-207); display lines adjacent to one another (page 9, paragraph 221, Lines 22-57, page 2, paragraph 28); and an light emission driving component for

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emitting the pixel cells depending on the multi-grayscale pixel data by weighing the display line groups each differently in luminance (page 10, paragraph 4, Lines 2-15, page 11, paragraph 9, Lines 8-14).

Regarding Claim 17, Suzuki teaches the light emission driving component (page 2, paragraph 27, Lines 4-8, paragraph 31) includes: an address (page 2, paragraph 27, Lines 4-8) component for performing, based on the multi-grayscale pixel data (page 2, paragraph 36, page 3, paragraph 53, page 4, paragraphs 81,83,84), a lighting mode setting or an extinction mode setting with respect to each of the pixel cells on a display line group basis (page 2, paragraph 36, page 3, paragraph 53, page 4, paragraphs 81,83-85); and a sustain component for emitting only the pixel cells in the lighting mode over a predetermined period every time the setting to the display line groups is done (page 4, paragraph 81-85, page 5, paragraphs 113-117).

Regarding Claim 18, Suzuki teaches the address component changes an execution order of the setting to the display line groups on a field basis of the video signal (page 5, paragraphs 114-117).

Regarding Claim 19, Suzuki teaches the multi-grayscale component further comprises dither addition component for generating a dither coefficient in a corresponding manner to any adjacent pixel position in a pixel cell group of i-line by j-column, and adding the result to the pixel data (page 8, paragraphs 208-211, Col. 9, paragraph 221, Lines 23-57).

Regarding Claim 20, Suzuki teaches the dither addition component changes, on a field basis of the video signal, the dither coefficient derived in the corresponding manner to the pixel position in the pixel cell group (page 8, paragraphs 208-211, Col. 9, paragraph 221).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tokunaga et al. (US 6,614,413 B2) Method of driving Plasma Display Panel.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prabodh M. Dharia whose telephone number is 571-272-7668. The examiner can normally be reached on M-F 8AM to 5PM.

10. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

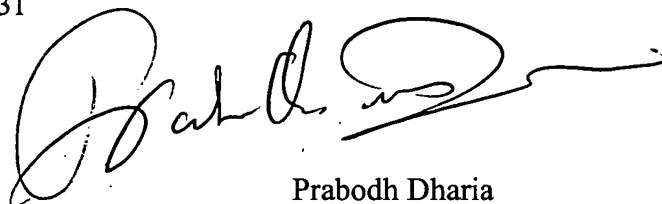
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like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

A handwritten signature in black ink, appearing to read 'Prabodh Dharia', with a long horizontal flourish extending to the right.

Prabodh Dharia

AU2629

Partial Signatory Program Authority

November 28, 2006